**CLAIMS:**

1. A process for identifying a compound which selectively induces the mitochondrial permeability transition (MPT) in proliferating cells, wherein said process comprises contacting a cell or cell extract with a compound, determining whether the compound binds to adenine nucleotide translocator (ANT), and determining whether the compound selectively induces the MPT in proliferating cells.

2. A process for screening a plurality of compounds to identify a compound which selectively induces MPT in proliferating cells, wherein said process comprises contacting a cell or a cell extract with the plurality of compounds, determining whether any of the compounds bind to ANT, and if so, separately determining for each of the plurality of compounds whether the compound selectively induces the MPT in proliferating cells.

3. The process of claim 1 or 2, wherein selectivity for proliferating cells is determined by comparing the effect of compounds identified as binding to ANT on the MPT in proliferating cells with the effect on the MPT in non-proliferating or growth quiescent cells.

4. The process of claim 1 or 2, wherein said determination of induction of the MPT involves measuring changes in Cytochrome C release.

5. The process of claim 1 or 2, wherein said determination of induction of the MPT involves measuring changes in cellular superoxide concentration.

6. A process of inducing MPT in a vertebrate, wherein the method comprises administering to the vertebrate a therapeutically effective amount of at least one compound identified in accordance with the process of any one of claims 1 to 5, or a therapeutically effective amount of a pharmaceutical composition comprising at least one of said compounds together with a pharmaceutically acceptable carrier, adjuvant and/or diluent.

7. A process of inducing apoptosis in proliferating mammalian cells, comprising administering to the mammal an apoptosis-inducing amount of a compound identified in accordance with the process of any one of claims 1 to 5, or a therapeutically effective amount of a pharmaceutical composition comprising at least one of the compounds together with a pharmaceutically acceptable carrier, adjuvant and/or diluent.

8. A process of inhibiting angiogenesis in a mammal, comprising administering to the mammal an angiogenesis-inhibiting amount of a compound identified in accordance with the process of any one of claim 1 to 5, or a therapeutically effective amount of a pharmaceutical composition comprising at least one of said compounds together with a pharmaceutically acceptable carrier, adjuvant and/or diluent.

9. The process of any one of claims 1 to 8, wherein the compound is a dithiol reactive compound.

10. The process of any one of claims 1 to 8, wherein the compound has an arsenoxide (or arsenoxide equivalent) moiety.

11. The process of claim 10, wherein the compound is of the formula (I):

$$A\text{-}[(XBX')_nB'\text{-}Y]_p \qquad (I)$$

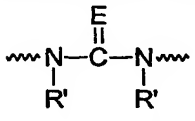
wherein

A comprises at least one pendant group;

$(XBX')_nB'$ comprises a suitable linker group, wherein X is selected from the group consisting of –NR, -S(O)-, -S(O)O-, -S(O)$_2$-, -S(O)$_2$O-, -C(O)-, -C(S)-, -C(O)O-, C(S)O-, -C(S)S-, -P(O)($R_1$)-, and –P(O)($R_1$)O-, or is absent;

B is selected from the group consisting of $C_1$-$C_{10}$ alkylene, $C_2$-$C_{10}$ alkenylene, $C_2$-$C_{10}$ alkynylene, $C_3$-$C_{10}$ cycloalkylene, $C_5$-$C_{10}$ cycloalkenylene, $C_3$-$C_{10}$ heterocycloalkylene, $C_5$-$C_{10}$ heterocycloalkenylene, $C_6$-$C_{12}$ arylene, heteroarylene and $C_2$-$C_{10}$ acyl;

X' is selected from the group consisting of –NR-, –O-, -S-, -Se-, -S-S-, S(O)-, -OS(O)-, OS(O)O-, -OS(O)$_2$, -OS(O)$_2$O-, -S(O)O-, -S(O)$_2$-, -S(O)$_2$O-, -OP(O)($R_1$)-, -OP(O)($R_1$)O-, -OP(O)($R_1$)OP(O)($R_1$)O-, -C(O)-, -C(S)-, -C(O)O-, C(S)O-, -C(S)S-, -P(O)($R_1$)-, -P(O)($R_1$)O-, and



or is absent; wherein E is O, S, Se, NR or N(R)$_2^+$;

B' is selected from the group consisting of $C_1$-$C_{10}$ alkylene, $C_2$-$C_{10}$ alkenylene, $C_2$-$C_{10}$ alkynylene, $C_3$-$C_{10}$ cycloalkylene, $C_5$-$C_{10}$ cycloalkenylene, $C_3$-$C_{10}$ heterocycloalkylene, $C_5$-$C_{10}$ heterocycloalkenylene, $C_6$-$C_{12}$ arylene, and heteroarylene or is absent; and wherein

each R is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, $OR_2$ and $C_2$-$C_{10}$ acyl;

R' is the same as R or two R' may be taken together with the nitrogen atoms to which they are attached to form a 5 or 6-membered saturated or unsaturated heterocyclic ring;

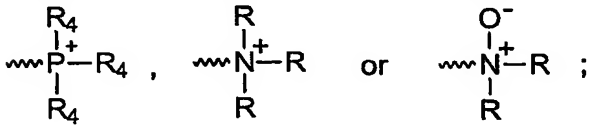
each $R_1$ is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, halo, $OR_2$ and $N(R)_2$;

each $R_2$ is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl and –C(O)$R_5$;

each $R_5$ is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, $C_1$-$C_{10}$ alkoxy, $C_3$-$C_{10}$ alkenyloxy, $C_3$-$C_{10}$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_3$-$C_{10}$ heterocycloalkyloxy, $C_5$-$C_{10}$ heterocycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, heteroaryloxy, $C_1$-$C_{10}$ alkylthio, $C_3$-$C_{10}$ alkenylthio, $C_3$-$C_{10}$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_3$-$C_{10}$ heterocycloalkylthio, $C_5$-$C_{10}$ heterocycloalkenylthio, $C_6$-$C_{12}$ arylthio, heteroarylthio, OH, SH and $N(R)_2$;

wherein for each instance that B and/or B' is arylene, the substituents directly attached to the respective arylene rings (including arsenoxide or arsenoxide equivalent) may be in a para-, meta- or ortho- relationship; and

wherein each alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, heterocycloalkylene, heterocycloalkenylene, arylene, heteroarylene and acyl may be independently substituted with hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, cyano, cyanate, isocyanate, $OR_{2a}$, $SR_6$, nitro, arsenoxide, $-S(O)R_3$, $-OS(O)R_3$, $-S(O)_2R_3$, $-OS(O)_2R_3$, $-P(O)R_4R_4$, $-OP(O)R_4R_4$, $-N(R'')_2$, $-NRC(O)(CH_2)_mQ$, $-C(O)R_5$;



wherein R, $R_1$ and $R_5$ are as defined above; and

$R_{2a}$ is selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $-S(O)R_3$, $-S(O)_2R_3$, $-P(O)(R_4)_2$, $N(R)_2$ and $-C(O)R_5$;

each $R_3$ is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, $C_1$-$C_{10}$ alkoxy, $C_3$-$C_{10}$ alkenyloxy, $C_3$-$C_{10}$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_3$-$C_{10}$ heterocycloalkyloxy, $C_5$-$C_{10}$ heterocycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, heteroaryloxy, $C_1$-$C_{10}$ alkylthio, $C_3$-$C_{10}$ alkenylthio, $C_3$-$C_{10}$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_3$-$C_{10}$ heterocycloalkylthio, $C_5$-$C_{10}$ heterocycloalkenylthio, $C_6$-$C_{12}$ arylthio, heteroarylthio and $N(R)_2$;

each $R_4$ is independently selected from the group consisting of hydrogen, $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, $C_1$-$C_{10}$ alkoxy, $C_3$-$C_{10}$ alkenyloxy, $C_3$-$C_{10}$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_3$-$C_{10}$ heterocycloalkyloxy, $C_5$-$C_{10}$

heterocycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, heteroaryloxy, $C_1$-$C_{10}$ alkylthio, $C_3$-$C_{10}$ alkenylthio, $C_3$-$C_{10}$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_3$-$C_{10}$ heterocycloalkylthio, $C_5$-$C_{10}$ heterocycloalkenylthio, $C_6$-$C_{12}$ arylthio, heteroarylthio, halo and $N(R)_2$;

$R_6$ is selected from the group consisting of $C_1$-$C_{10}$ alkyl, $C_2$-$C_{10}$ alkenyl, $C_2$-$C_{10}$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_3$-$C_{10}$ heterocycloalkyl, $C_5$-$C_{10}$ heterocycloalkenyl, $C_6$-$C_{12}$ aryl, heteroaryl, $C_1$-$C_{10}$ alkylthio, $C_3$-$C_{10}$ alkenylthio, $C_3$-$C_{10}$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_3$-$C_{10}$ heterocycloalkylthio, $C_5$-$C_{10}$ heterocycloalkenylthio, $C_6$-$C_{12}$ arylthio, heteroarylthio, $-S(O)R_3$, $-S(O)_2R_3$ and $-C(O)R_5$,

R" is the same as R or two R" taken together with the N atom to which they are attached may form a saturated, unsaturated or aromatic heterocyclic ring system;

Q is selected from halogen and $-OS(O)_2Q_1$; wherein $Q_1$ is selected from $C_1$-$C_4$ alkyl, $C_1$-$C_4$ perfluoroalkyl, phenyl, *p*-methylphenyl; and

m is 1 to 5,

n is an integer from 0 to 20

Y comprises at least one arsenoxide or arsenoxide equivalent;

p is an integer from 1 to 10, and wherein the compound of formula (I) has more than 6 carbon atoms.

12. The process of claim 11, wherein A is selected from the group consisting of natural, unnatural and synthetic amino acids, hydrophilic amines, peptides, polypeptides, sugar residues, oligosaccharides, and thiol containing proteins, small acid residues, hydroxyl containing residues, or a combination thereof.

13. The process of claim 12, wherein said hydrophilic amine is selected from primary alkylamines, primary arylamines, primary aralkylamines, secondary alkylamines, secondary arylamines, secondary aralkylamines, tertiary alkylamines, tertiary arylamines and tertiary aralkylamines, and heterocyclic amines..

14. The process of claim 12 or 13, wherein A is selected from the group consisting of dipeptides, tripeptides, tetrapeptides, pentapeptides, glutathione, glucosamine, saccharides, disaccharides, oligosaccharides, wherein the sulfur atom of each sulfur containing residue may be optionally oxidised to form a sulfoxide or sulfone.

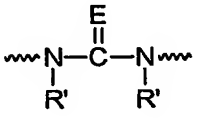
15. The process of claim 14, wherein A is selected from a peptide comprising one or more of cysteinylglycine, cysteic acid, aspartic acid, glutamic acid, lysine, and arginine; glucose, fructose, mannose, xylose, lyxose, galactose, hexose, sucrose, sorbose, galactosyl-sucrose, sorbitol, mannitol, and xylitol,

16. The process of any one of claims 11 to 15, wherein

X is selected from the group consisting of -C(O)-, -C(S)-, -C(O)O-, C(S)O-, and -C(S)S-, or is absent;

B is selected from the group consisting of $C_1$-$C_5$ alkylene, $C_2$-$C_5$ alkenylene, $C_2$-$C_5$ alkynylene, $C_3$-$C_{10}$ cycloalkylene, $C_5$-$C_{10}$ cycloalkenylene, $C_6$-$C_{12}$ arylene and $C_2$-$C_5$ acyl;

X' is selected from the group consisting of –O-, -S-, -NR-, -S-S-, -S(O)-, -$S(O)_2$-, -P(O)($R_1$)-, -OP(O)($R_1$)-, OP(O)($R_1$)O-, -OP(O)($R_1$)OP(O)($R_1$)O-, -C(O)-, -C(S)-, -C(O)O-, C(S)O-, -C(S)S-, -Se-,



, or is absent; wherein E is O, S or $N(R)_2^+$;

n is 0, 1 or 2; and

B' is $C_1$-$C_5$ selected from the group consisting of alkylene, $C_2$-$C_5$ alkenylene, $C_2$-$C_5$ alkynylene, $C_3$-$C_{10}$ cycloalkylene, $C_5$-$C_{10}$ cycloalkenylene, and $C_6$-$C_{12}$ arylene, or is absent; and wherein

each R is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $OR_2$ and $C_2$-$C_{10}$ acyl;

R' is the same as R;

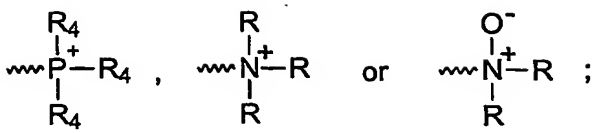
each $R_1$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, halo, $OR_2$ and $N(R)_2$;

each $R_2$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, and -C(O)$R_5$;

each $R_5$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_5$ alkenyloxy, $C_3$-$C_5$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_3$-$C_5$ alkenylthio, $C_3$-$C_5$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_6$-$C_{12}$ arylthio, OH, SH, and $N(R)_2$;

wherein for each instance that B and/or B' is arylene, the substituents directly attached to the respective arylene rings (including arsenoxide or arsenoxide equivalent), may be in a para-, meta- or ortho- relationship, and

wherein each alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, and acyl may be independently substituted with hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, cyano, halo, cyanate, isocyanate, $OR_{2a}$, $SR_6$, nitro, arsenoxide, -S(O)$R_3$, -OS(O)$R_3$, -$S(O)_2R_3$, -$OS(O)_2R_3$, -P(O)$R_4R_4$, -OP(O)$R_4R_4$, -$N(R'')_2$, NRC(O)$(CH_2)_mQ$, -C(O)$R_5$,



wherein R, $R_1$ and $R_5$ are as defined above; and

$R_{2a}$ is selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, -S(O)$R_3$, -S(O)$_2R_3$, -P(O)($R_4$)$_2$, N(R)$_2$ and -C(O)$R_5$;

each $R_3$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_5$ alkenyloxy, $C_3$-$C_5$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_3$-$C_5$ alkenylthio, $C_3$-$C_5$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_6$-$C_{12}$ arylthio and N(R)$_2$;

each $R_4$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_5$ alkenyloxy, $C_3$-$C_5$ alkynyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_3$-$C_5$ alkenylthio, $C_3$-$C_5$ alkynylthio, $C_3$-$C_5$ cycloalkylthio, $C_5$-$C_5$ cycloalkenylthio, $C_6$-$C_{12}$ arylthio, halo and N(R)$_2$;

$R_6$ is independently selected from the group consisting of $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkylthio, $C_3$-$C_5$ alkenylthio, $C_3$-$C_5$ alkynylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_6$-$C_{12}$ arylthio, -S(O)$R_3$, -S(O)$_2R_3$ and –C(O)$R_5$,

R" is the same as R;

Q is selected from the group consisting of halogen and –OS(O)$_2Q_1$; wherein $Q_1$ is selected from $C_1$-$C_4$ alkyl, $C_1$-$C_4$ perfluoroalkyl, phenyl, *p*-methylphenyl;

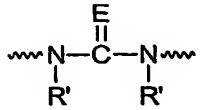
m is 1 to 5.

17. The process of any one of claims 11 to 16, wherein

X is absent;

B is selected from the group consisting of $C_1$-$C_5$ alkylene, $C_6$-$C_{12}$ arylene and $C_2$-$C_5$ acyl;

X' is selected from the group consisting of –O-, -S-, -NR-, -S-S-, -S(O)-, -S(O)$_2$-, -P(O)($R_1$)-, -C(O)-, -C(S)-, -C(O)O-, C(S)O-, -Se-, and



, or absent; wherein E is O, S or N(R)$_2^+$;

n is 0, 1 or 2; and

B' is $C_1$-$C_5$ alkylene, $C_6$-$C_{12}$ arylene or is absent; and wherein

each R is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, $OR_2$ and $C_2$-$C_5$ acyl;

R' is the same as R;

each $R_1$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, halo, $OR_2$ and $N(R)_2$;

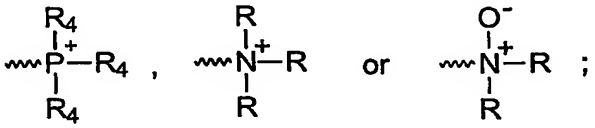
each $R_2$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl and $-C(O)R_5$;

each $R_5$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_5$ alkenyloxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_5$-$C_{10}$ cycloalkenyloxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_3$-$C_5$ alkenylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_5$-$C_{10}$ cycloalkenylthio, $C_6$-$C_{12}$ arylthio, OH, SH and $N(R)_2$;

wherein for each instance that B and/or B' is arylene, the substituents directly attached to the respective arylene rings (including arsenoxide or arsenoxide equivalent) may be in a para-, meta- or ortho- relationship, and

wherein each alkylene, alkenylene, alkynylene, cycloalkylene, cycloalkenylene, arylene, and acyl may be independently substituted with hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl,

$C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, halo, cyano, cyanate, isocyanate, $OR_{2a}$, $SR_6$, nitro, arsenoxide, $-S(O)R_3$, $-OS(O)R_3$, $-S(O)_2R_3$, $-OS(O)_2R_3$, $-P(O)R_4R_4$, $-OP(O)R_4R_4$, $-N(R'')_2$, $-NRC(O)(CH_2)_mQ$, $-C(O)R_5$,



wherein R, $R_1$ and $R_5$ are as defined above; and

$R_{2a}$ is selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, $-S(O)R_3$, $-S(O)_2R_3$, $-P(O)(R_4)_2$ and $-C(O)R_5$;

each $R_3$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_6$-$C_{12}$ arylthio and $N(R)_2$;

each $R_4$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_3$-$C_{10}$ cycloalkyloxy, $C_6$-$C_{12}$ aryloxy, halo and $N(R)_2$;

$R_6$ is selected from the group consisting of $C_1$-$C_5$ alkyl, $C_3$-$C_{10}$ cycloalkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkylthio, $C_3$-$C_{10}$ cycloalkylthio, $C_6$-$C_{12}$ arylthio, $-S(O)R_3$, $-S(O)_2R_3$ and $-C(O)R_5$,

R" is the same as R;

Q is selected from halogen and $-OS(O)_2Q_1$; wherein $Q_1$ is selected from $C_1$-$C_4$ alkyl, $C_1$-$C_4$ perfluoroalkyl, phenyl, *p*-methylphenyl; and

m is 1 to 5.

18. The process of any one of claims 11 to 17, wherein

X is absent;

B is selected from the group consisting of $C_1$-$C_5$ alkylene, $C_6$-$C_{12}$ arylene and $C_2$-$C_5$ acyl;

X' is selected from the group consisting of –O-, -S-, -NR-, -C(O)-, and -C(O)O-, or is absent;

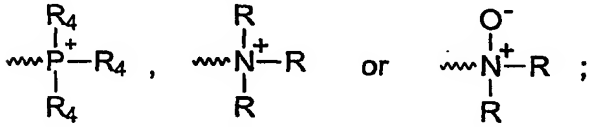
n is 1; and

B' is $C_1$-$C_5$ alkylene, $C_6$-$C_{12}$ arylene or is absent; and

R is selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl and $C_2$-$C_5$ acyl;

wherein for each instance that B and/or B' is arylene, the substituents directly attached to the respective arylene rings (including arsenoxide or arsenoxide equivalent), may be in a para-, meta- or ortho- relationship, and

wherein each alkylene, arylene, and acyl may be independently substituted with hydrogen, $C_1$-$C_5$ alkyl, $C_2$-$C_5$ alkenyl, $C_2$-$C_5$ alkynyl, $C_3$-$C_{10}$ cycloalkyl, $C_5$-$C_{10}$ cycloalkenyl, $C_6$-$C_{12}$ aryl, halo, cyano, cyanate, isocyanate, $OR_{2a}$, $SR_6$, nitro, arsenoxide, $-S(O)R_3$, $-S(O)_2R_3$, $-P(O)R_4R_4$, $-N(R")_2$, $-NRC(O)(CH_2)_mQ$, $-C(O)R_5$,



wherein each R is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl and $C_2$-$C_5$ acyl;

$R_{2a}$ is selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $-S(O)R_3$, $-S(O)_2R_3$, $-P(O)(R_4)_2$ and $-C(O)R_5$;

each $R_3$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, and $C_6$-$C_{12}$ arylthio;

each $R_4$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_6$-$C_{12}$ arylthio, halo and $N(R)_2$;

each $R_5$ is independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $C_6$-$C_{12}$ aryloxy, $C_1$-$C_5$ alkylthio, $C_6$-$C_{12}$ arylthio, OH, SH and $N(R)_2$;

$R_6$ is selected from the group consisting of $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkylthio, $C_6$-$C_{12}$ arylthio, $-S(O)R_3$, $-S(O)_2R_3$ and $-C(O)R_5$,

R" is the same as R above;

Q is selected from halogen and $-OS(O)_2Q_1$; wherein $Q_1$ is selected from $C_1$-$C_4$ alkyl, $C_1$-$C_4$ perfluoroalkyl, phenyl, *p*-methylphenyl; and

m is , 2, 3, 4, or 5.

19. The process of any one of claims 11 to 18, wherein

X is absent;

B is $C_2$-$C_5$ acyl;

X' is NR;

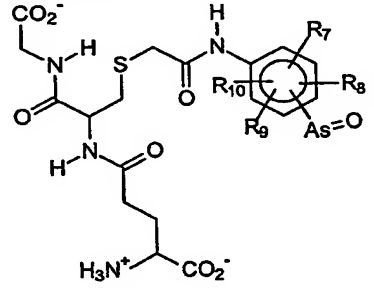
n is 1;

B' is phenylene; and

R is H;

wherein the substituents directly attached to the phenylene ring may be in a para-, meta- or ortho- relationship.

20. The process of claim 19, wherein said compound is:

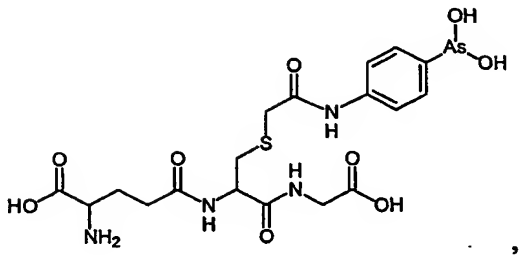


wherein $R_7$ to $R_{10}$ are independently selected from the group consisting of hydrogen, $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, halogen, hydroxy, amino, nitro, carboxy, $C_1$-$C_5$ alkoxy, $-OS(O)_2R_3$ and $-NHC(O)CH_2Q$ wherein Q is halogen, $-OS(O)_2CH_3$, $-OS(O)_2C_6H_5$ and $-OS(O)_2$-*p* tolyl; and wherein, when any one of $R_7$ to $R_{10}$ is $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, $-OS(O)_2R_3$ it is capable of forming a fused ring with the phenylene; and further wherein, at least one of $R_7$ to $R_{10}$ is $C_1$-$C_5$ alkyl, $C_6$-$C_{12}$ aryl, $C_1$-$C_5$ alkoxy, or $-OS(O)_2R_3$, in combination with at least any one other of $R_7$ to $R_{10}$, is capable of forming a fused ring with the phenylene.

21. The process of claim 20, wherein $R_7$ to $R_{10}$ are independently selected from the group consisting of hydrogen, halogen, hydroxy, amino, nitro, cyano, carboxy, $C_1$-$C_5$ alkoxy, methyl, ethyl, isopropyl, tert-butyl, phenyl and $-NHC(O)CH_2Q$ wherein Q is halogen, $-OS(O)_2CH_3$, $-OS(O)_2C_6H_5$ and $-OS(O)_2$-*p* tolyl.

22. The process of claim 19 or 20, wherein the arsenoxide (-As=O) group is at the 4-position of the phenylene ring.

23. The process of any one of claims 1 to 22 wherein the compound is selected from the group consisting of:



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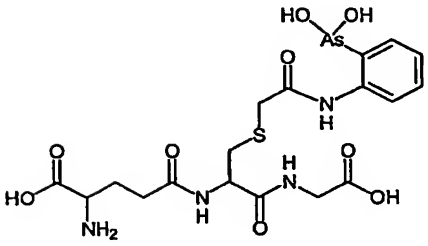

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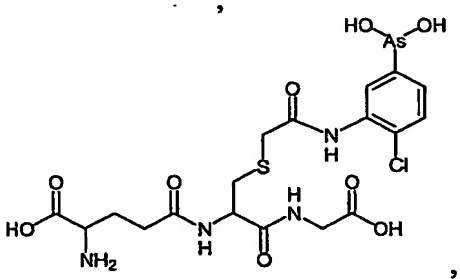

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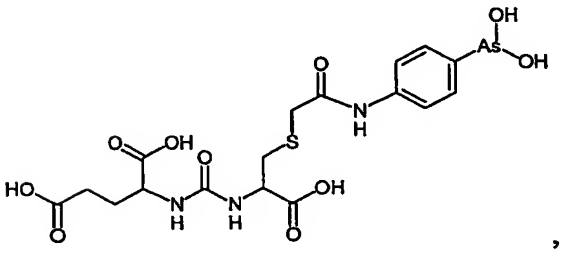

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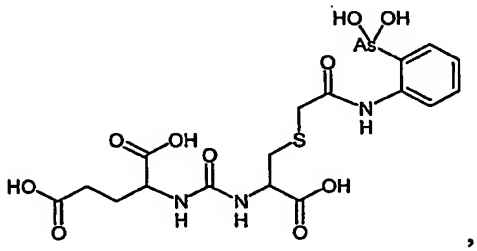

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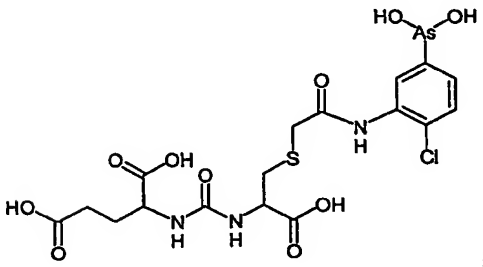

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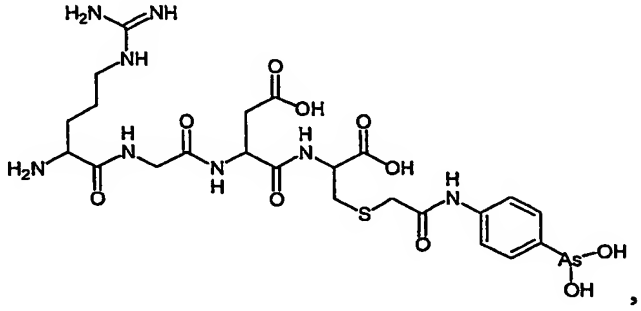

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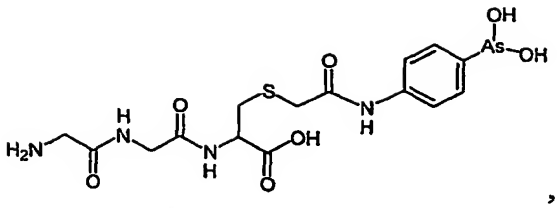
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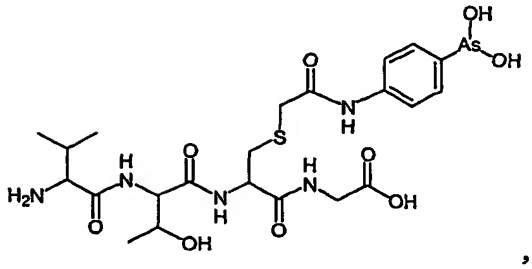
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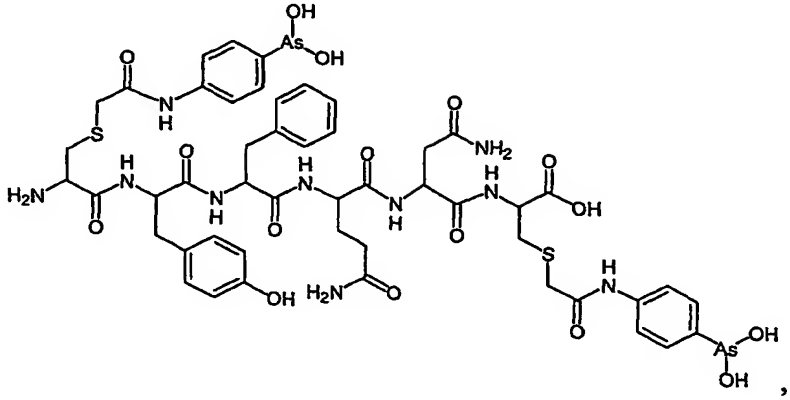
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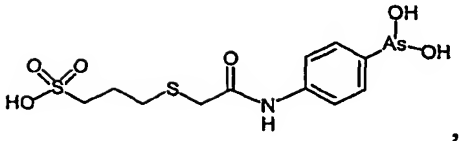
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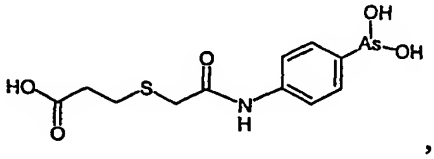
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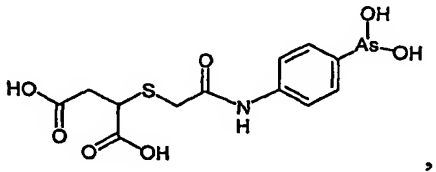
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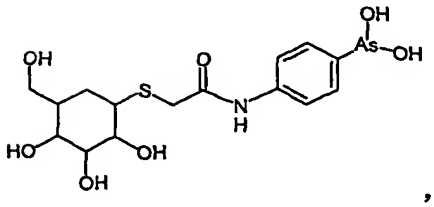
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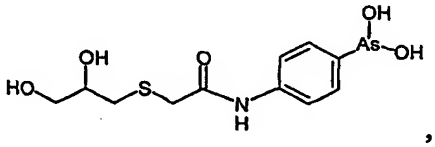
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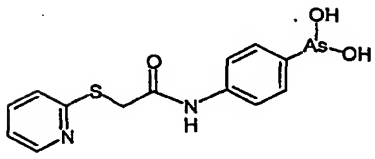
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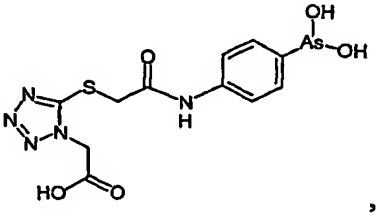
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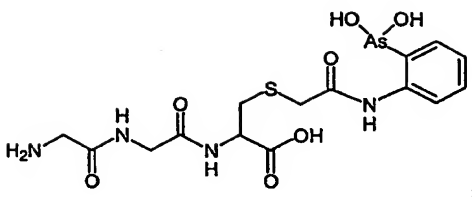
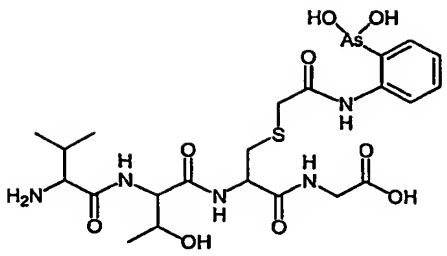
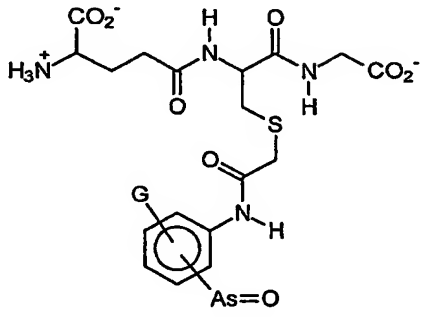



24. The process of any one of claims 1 to 19 wherein the compound is represented by Formula VII:



(VII)

wherein G is selected from the group consisting of: hydrogen, halogen, hydroxy, amino, nitro, carboxy, $C_1$-$C_5$ alkoxy, $C_1$-$C_5$ alkyl and $C_6$-$C_{12}$ aryl and -NHC(O)$CH_2$Q wherein Q is halogen, -OS(O)$_2CH_3$, -OS(O)$_2C_6H_5$ or –OS(O)$_2$-p tolyl.

25. The process of claim 24, wherein G is selected from the group consisting of: hydrogen, halogen, hydroxy, amino, nitro, carboxy, $C_1$-$C_5$ alkoxy, methyl, ethyl, iso-propyl, tert-butyl, phenyl, and -NHC(O)$CH_2$Q wherein Q is halogen, -OS(O)$_2CH_3$, -OS(O)$_2C_6H_5$ or –OS(O)$_2$-p tolyl.

26. The process of claim 24 or 25, wherein G is selected from the group consisting of hydroxy, fluorine, amino, and nitro.

27. The process of any one of claims 1 to 26, wherein the arsenoxide group (-As=O) is replaced by an arsenoxide equivalent as defined herein.

28. The process of claim 27, wherein the arsenoxide equivalent is any dithiol reactive species that shows essentially the same affinity towards dithiols as –As=O.